

## 80.Cyberbullying Detection Based On Semantic-Enhanced Marginalized Denoising Auto-Encoder

### Abstract:

As a side effect of increasingly popular social media, cyberbullying has emerged as a serious problem afflicting children, adolescents and young adults. Machine learning techniques make automatic detection of bullying messages in social media possible, and this could help to construct a healthy and safe social media environment. In this meaningful research area, one critical issue is robust and discriminative numerical representation learning of text messages. In this paper, a new representation learning method is introduced to tackle this problem. The method named Semantic-Enhanced Marginalized Denoising Auto-Encoder (smSDA) is developed via semantic extension of the popular deep learning model stacked denoising autoencoder. The semantic extension consists of semantic dropout noise and sparsity constraints, where the semantic dropout noise is designed based on domain knowledge and the word embedding technique. The proposed method is able to exploit the hidden feature structure of bullying information and learn a robust and discriminative representation of text.